

## WE CLAIM:

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1. A method for treating a patient having a condition in which regulating energy metabolism during a systemic inflammatory response is desired, comprising administering a composition having a physiologically effective amount of at least one OB-R agonist ligand.

2. The method of claim 1 wherein the OB-R agonist ligand is recombinant human OB protein.

10 3. The method of claim 2 wherein the amount of recombinant human OB protein administered is from about 1 microgram per kilogram body weight to about 50 micrograms per kilogram body weight.

4. The method of claim 1 wherein the OB-R agonist ligand is a peptide conformational analog of human OB protein comprising conservative substitutions of amino acid residues.

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5. The method of claim 1 wherein the OB-R agonist ligand is an OB-related peptide.

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6. The method of claim 1 wherein the condition is sepsis.

7. The method of claim 1 wherein the condition is systemic inflammatory response syndrome.

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8. A composition for treating a patient having a condition in which regulating energy metabolism during a systemic inflammatory response is desired, comprising a physiologically effective amount of at least one OB-R agonist ligand.

25 9. The composition of claim 8 wherein the OB-R agonist ligand is recombinant human OB protein.

10. The composition of claim 9 wherein the amount of recombinant human OB protein per dose is from about 1 microgram per kilogram body weight to about 50 micrograms per kilogram body weight.

11. The composition of claim 8 wherein the OB-R agonist ligand is a peptide conformational analog of human OB protein comprising conservative substitutions of amino acid residues.
12. The composition of claim 8 wherein the OB-R agonist ligand is an OB-related peptide.
13. The composition of claim 8 wherein the condition is sepsis.
14. The composition of claim 8 wherein the condition is systemic inflammatory response syndrome.
15. A composition for the amelioration of the toxicity of therapeutic cytokines comprising a physiologically effective amount of an OB-R agonist ligand.
16. The composition of claim 15 wherein the OB-R agonist ligand is recombinant human OB protein.
17. The composition of claim 15 wherein the amount of recombinant human OB protein per dose is 1 microgram per kilogram body weight to about 50 micrograms per kilogram body weight.
18. A method for the treatment of a patient having obesity comprising the steps of:  
administering at least one OB-R expression inducer; and  
administering a physiologically effective amount of an OB-R agonist ligand.
19. The method of claim 18 wherein the OB-R expression inducer is a compound chosen from the group consisting of LPS, IL-1 $\alpha$ , IL-1 $\beta$ , TNF- $\alpha$  and IL-6.
20. The method of claim 18 wherein the OB-R expression inducer and the OB-R agonist ligand are administered at a different times.
21. The method of claim 18 wherein the OB-R expression inducer is administered in an amount from about 0.003 to about 20 micrograms per kilogram body weight.

22. The method of claim 18 wherein the OB-R agonist ligand is administered in an amount from about 1 microgram per kilogram body weight to about 50 micrograms per kilogram body weight.

23. The method of claim 18 wherein the OB-R agonist ligand is recombinant human OB protein.

24. The method of claim 23 wherein the recombinant human OB protein is administered in an amount from about 1 micrograms per kilogram body weight to about 50 micrograms per kilogram body weight.

25. The method of claim 18 wherein the OB-R expression inducer is IL-6.

26. The method of claim 25 wherein IL-6 is administered in an amount from about 0.5 to about 20 micrograms per kilogram body weight.

27. A method for the treatment of a patient having a condition characterized by OB resistance, comprising the steps of:  
administering IL-6 in an amount from about 0.5 to about 20 micrograms per kilogram body weight; and  
administering recombinant human OB protein in an amount from about 1 microgram per kilogram body weight to about 50 micrograms per kilogram body weight.

28. A composition suitable for the treatment of obesity comprising:

at least one therapeutic cytokine capable of increasing the expression of the OB receptor;

a physiologically effective amount of an OB-R agonist ligand; and a pharmaceutically acceptable excipient.

29. The composition of claim 28 wherein the therapeutic cytokine capable of increasing the expression of the OB receptor and the OB-R agonist ligand are packaged separately.

30. The composition of claim 28 wherein the therapeutic cytokine is about 0.5 to about 20 micrograms per kilogram body weight IL-6.

31. The composition of claim 29 wherein the OB-R agonist ligand is administered in a dose of about 1 micrograms per kilogram body weight to about 50 micrograms per kilogram body weight recombinant human OB protein.

5 32. An assay kit for a disease marker in a sample for a systemic inflammatory response in a patient comprising:

an antibody capable of binding to OB protein; and  
a detection means for determining the amount of the  
antibody bound to OB protein.

10 33. A method for assaying a disease marker for an inflammatory response in a patient comprising:

mixing a portion of the sample with an antibody capable of  
binding to OB protein; and

detecting the amount of antibody bound to OB protein.

15 34. A composition suitable for the treatment of anorexia, cachexia or other wasting condition comprising a physiologically effective amount of antibody capable of binding OB protein.

20 35. The method for the treatment of anorexia, cachexia or other wasting condition comprising administering a physiologically effective amount of antibody capable of binding OB protein in an amount from about 0.02 to about 15 milligrams per kilogram body weight per day.